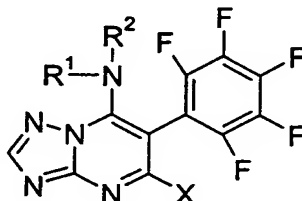


What is claimed is:

1. A 6-pentafluorophenyltriazolopyrimidine of the formula I



5 in which the substituents are as defined below:

10 R^1 is C_1 - C_8 -alkyl, C_1 - C_8 -haloalkyl, C_3 - C_8 -cycloalkyl, C_3 - C_8 -halocycloalkyl, C_2 - C_8 -alkenyl, C_2 - C_8 -haloalkenyl, C_3 - C_6 -cycloalkenyl, C_3 - C_6 -halocycloalkenyl, C_2 - C_8 -alkynyl, C_2 - C_8 -haloalkynyl or phenyl, naphthyl or a five- or six-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S,

15 R^2 is hydrogen or one of the groups mentioned under R^1 ,

20 R^1 and R^2 together with the nitrogen atom to which they are attached may also form a five- or six-membered heterocyclyl or heteroaryl which is attached via N and may contain one to three further heteroatoms from the group consisting of O, N and S as ring members and/or may carry one or more substituents from the group consisting of halogen, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_2 - C_6 -alkenyl, C_2 - C_6 -haloalkenyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_3 - C_6 -alkenyloxy, C_3 - C_6 -haloalkenyloxy, (exo)- C_1 - C_6 -alkylene and oxy- C_1 - C_3 -alkyleneoxy;

25 R^1 and/or R^2 may carry one to four identical or different groups R^a :

30 R^a is halogen, cyano, nitro, hydroxyl, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_1 - C_6 -alkylcarbonyl, C_3 - C_6 -cycloalkyl, C_1 - C_6 -alkoxy, C_1 - C_6 -haloalkoxy, C_1 - C_6 -alkoxycarbonyl, C_1 - C_6 -alkylthio, C_1 - C_6 -alkylamino, di- C_1 - C_6 -alkylamino, C_2 - C_8 -alkenyl, C_2 - C_8 -haloalkenyl, C_2 - C_6 -alkenyloxy, C_2 - C_8 -alkynyl, C_2 - C_8 -haloalkynyl, C_3 - C_6 -alkynyloxy, oxy- C_1 - C_3 -alkyleneoxy, C_3 - C_8 -cycloalkenyl, phenyl, naphthyl, a five- or six-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S, where these aliphatic, alicyclic or aromatic groups for their part may be partially or fully halogenated;

35

X is cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₃-C₄-alkenyloxy, C₁-C₂-haloalkoxy or C₃-C₄-haloalkenyloxy.

2. The compound of the formula I according to claim 1, in which X is cyano, C₁-C₄-alkoxy, C₃-C₄-alkenyloxy, C₁-C₂-haloalkoxy or C₃-C₄-haloalkenyloxy.

3. The compound of the formula I according to claim 1 or 2, in which X is cyano.

4. The compound of the formula I according to claim 1 or 2, in which X is methoxy.

5. The compound of the formula I according to claim 1, in which X is C₁-C₄-alkyl.

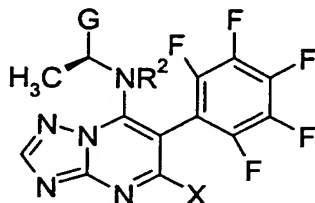
6. The compound of the formula I according to any of claims 1 to 5, in which R¹ and R² are as defined below:

R¹ is CH(CH₃)-CH₂CH₃, CH(CH₃)-CH(CH₃)₂, CH(CH₃)-C(CH₃)₃, CH(CH₃)-CF₃, CH₂C(CH₃)=CH₂, CH₂CH=CH₂, cyclopentyl or cyclohexyl;

R² is hydrogen or methyl;

R¹ and R² together form -(CH₂)₂CH(CH₃)(CH₂)₂-, -(CH₂)₂CH(CF₃)(CH₂)₂- or -(CH₂)₂O(CH₂)₂-.

7. A compound of the formula I.1:



I.1

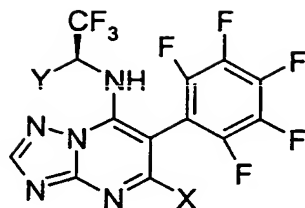
in which

G is C₂-C₆-alkyl, C₁-C₄-alkoxymethyl or C₃-C₆-cycloalkyl;

R² is hydrogen or methyl; and

X is cyano, methyl, methoxy or ethoxy.

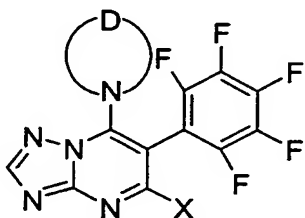
8. A compound of the formula I.2.



I.2

in which Y is hydrogen or C₁-C₄-alkyl and X is cyano, methyl, methoxy or ethoxy.

- 5 9. A compound of the formula I.3,



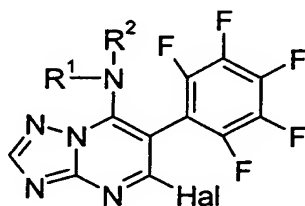
I.3

in which

- 10 D together with the nitrogen atom forms a five- or six-membered heterocyclyl or heteroaryl which is attached via N and may contain a further heteroatom from the group consisting of O, N and S as ring member and/or may carry one or more substituents from the group consisting of halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₂-C₆-alkenyl, C₂-C₆-haloalkenyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₃-C₆-alkenyloxy, C₃-C₆-haloalkenyloxy, (exo)-C₁-C₆-alkylene and oxy-C₁-C₃-alkyleneoxy; and
- 15

X is cyano, methyl, methoxy or ethoxy.

- 10 20. A process for preparing the compounds of the formula I according to claim 2 by reacting 5-halo-6-(2,4,6-trifluorophenyl)triazolopyrimidines of the formula II
- 20



II

in which Hal is a halogen atom, with compounds of the formula III

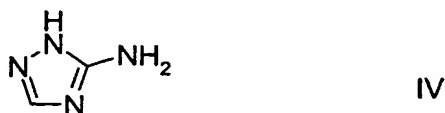
M-X

III

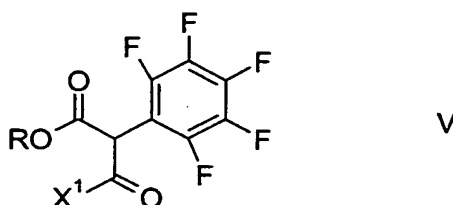
in which M is an ammonium, tetraalkylammonium or alkali metal or alkaline earth metal cation and X is as defined in claim 2.

25

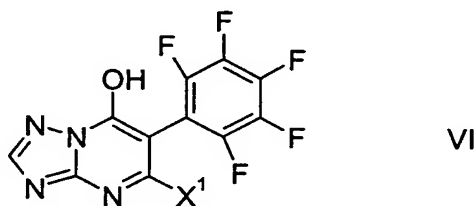
11. A process for preparing compounds of the formula I according to claim 5 by reacting 2-aminotriazole of the formula IV



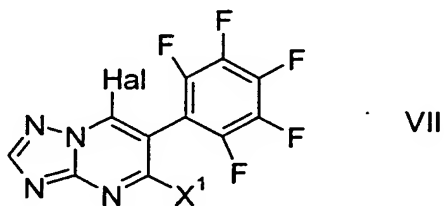
5 with keto esters of the formula V



in which R and X¹ independently of one another are C₁-C₄-alkyl and L¹, L² and L³ are as defined in claim 1, to give 5-alkyl-7-hydroxy-6-phenyltriazolopyrimidines of the formula VI.



halogenation of VI with halogenating agents to give halopyrimidines of the formula VII



in which Hal is a halogen atom, and reaction of VII with amines of the formula VIII



in which R^1 and R^2 are as defined in formula I.

12. A composition, comprising a solid or liquid carrier and a compound of the formula I according to claim 1 or 2.
13. Seed, comprising a compound of the formula I according to claim 1 or 2 in an amount of from 1 to 1000 g/100 kg.

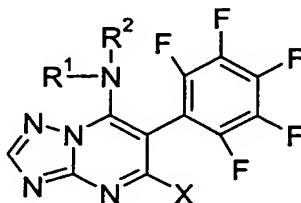
14. A method for controlling phytopathogenic harmful fungi, which method comprises treating the fungi or the materials, plants, the soil or seeds to be protected against fungal attack with an effective amount of a compound of the formula I according to claim 1 or 2.
- 5

6-Pentafluorophenyl-triazolopyrimidines, method for their production and their use for combating pathogenic fungi, in addition to agents containing said substances

Abstract

5

6-Pentafluorophenyltriazolopyrimidines of the formula I



I

in which the substituents are as defined below:

10 R^1 is alkyl, haloalkyl, cycloalkyl, halocycloalkyl, alkenyl, haloalkenyl, cycloalkenyl, halocycloalkenyl, alkynyl, haloalkynyl or phenyl, naphthyl, or a five- or six-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S,

15 R^2 is hydrogen or one of the groups mentioned under R^1 ,

R^1 and R^2 together with the nitrogen atom to which they are attached may also form a five- or six-membered heterocyclyl or heteroaryl which is attached via N and may contain one to three further heteroatoms from the group consisting of O, N and S as ring members;

20

R^1 and/or R^2 may be substituted as defined in the description;

X is cyano, alkyl, alkoxy, alkenyloxy, haloalkoxy or haloalkenyloxy,

25

processes for preparing these compounds, compositions comprising them and their use for controlling phytopathogenic harmful fungi.